

論文の内容の要旨

論文題目 The role of community-based antenatal care to promote mother and child health in rural, Lao PDR

和訳 ラオス人民民主共和国の農村部におけるコミュニティを基盤とした産前ケアが母子保健の推進に果たす役割に関する研究

指導教員 渋谷健司教授

東京大学大学院医学系研究科

2007年4月入(進)学

博士後期課程

国際保健学専攻

氏名 パタムマヴォン ウタヴォン

Introduction

Lao PDR has among the highest maternal and child mortality rates in the Asia-Pacific Region. The publication in 2008 by the Lancet on the countdown for Millennium Development Goals (MDG) 4 and 5 showed that Lao PDR has made great progress toward child mortality reduction, but its achievement in the maternal mortality reduction goal remains questionable.

To achieve the goals of maternal and child mortality reduction, the government of Lao PDR has initiated a number of strategies in primary health care settings such as health centers and district hospitals. However, in 2005, the national coverage of antenatal care was 37.2%, and institutional delivery coverage was 17.6%. The national tetanus toxoid (TT) vaccination and

childhood immunization coverage of Lao PDR in 2005 was 55.5% and 53.8%, respectively – among the lowest in the region.

Safe Motherhood and Early Childhood Development (SMECD) project

Since 2005 the MOH has launched the Safe Motherhood and Early Childhood Development (SMECD) project, which integrated MCH care services and expanded programs on immunization (EPI) to enhance the coverage of MCH and immunization of women and children, and to establish a positive relationship between health care providers and villagers and women's confidence toward array of MCH services in rural areas of Lao PDR by providing its project services in the villages through outreach health workers who are medical doctor, medical assistant, nurse and/or midwife.

The project components included immunization for children, ANC checkups in communities, or “community-based ANC”, and etc. by three outreach health workers. Components of community-based ANC consisted of reviewing general pregnancy status and history of pregnancy and deliveries, health check for pregnancy and fetal development, risk in pregnancy assessment (weighing, age of pregnancy, fetal movement, heart sound, fetal position, hypertension/pre-eclampsia, anemia, oedema, abnormal vaginal discharge and breast for inserted nipple), prescription of iron tablet for 90 days and anti-malaria drug, counsel pregnancy on nutrition, discuss on birth plan and place for delivery by encouraging all pregnancies to deliver in a health care facility.

Antenatal care as an intervention to reduce neonatal and maternal mortality

Numerous studies have shown that visiting an ANC clinic during pregnancy (Hospital-based ANC,

H-ANC) has a positive association with use of institutional deliveries, full tetanus toxoid vaccination of women, and childhood full immunization.

Objectives of the present study

The objectives of the present study are three-fold: to assess coverage of ANC visits in the selected SMECD project areas, with a focus on community-based ANC utilization; to determine coverage of institutional deliveries, TT vaccination, and childhood full immunization among women and their children; and to explore the role of community-based ANC to promote institutional deliveries, TT vaccination, and childhood immunization.

Methods

This is a community-based cross-sectional survey, which was carried out from August 2008 to January 2009.

Study site and sampling

The two provinces of Luangnamtha and Savannakhet were selected for this survey because they were among five pilot provinces of the SMECD project and categorized as poverty-stricken rural provinces.

Three districts out of five target districts of SMECD project in Luangnamtha and Savannakhet province were purposively selected for this study, which were Long and Sing districts in Luangnamtha and Nong district in Savannakhet province.

Two-stage probabilistic random sampling of villages was implemented in Sing and Nong

districts. In Long district, however, probabilistic random sampling was infeasible, because many villages were inaccessible by car in the monsoon season. In total, 74 villages were recruited in this study.

Sample size calculation

During field research, 855 women [median (interquartile range, IQR) = 11 women per village (8 - 14 women)] were approached and interviewed. Two women were excluded because their interview was incomplete. Data from the remaining 853 (596 in Luangnamtha province and 257 in Savannakhet province) were used for statistical analysis.

Study sample

All women who delivered their last child within the past two years were eligible recruited in this study

Study procedures

A one-day training course on research protocols, administration of questionnaires, and ethics was conducted for field research assistants. A small pilot study was carried out before the main survey.

Door-to-door technique was used to identify eligible women, and then face-to-face interviews were conducted at the women's home using structured questionnaire.

Statistical analyses

A logistic regression analysis was performed to assess the determinants of institutional deliveries,

protection-at-birth, and childhood immunization in the context of community-based antenatal care.

One-way between-groups analysis of covariance (ANCOVA) was performed to explore whether use and place of ANC affect the decision to have institutional deliveries by making women more knowledgeable about pregnancy and delivery complications.

Results

Of 853 women, 307 (36.0%) had had at least one ANC visits; 77.2% of these visits were hospital-based antenatal care; only 19.2% (59 women) had received community-based ANC.

One-hundred-eighty-three (21.5%) women had undergone a recent delivery in a medical institution.

Protection-at-birth coverage among women was 46.8%, and 27.3% of children were fully immunized.

The institutional deliveries was not significantly associated with community-based ANC ($p=0.59$); it was noted, however, that those women who had received hospital-based antenatal care ($p<0.001$) were approximately six times more likely to have institutional deliveries than those who didn't receive any ANC at all. The adjusted mean level of knowledge among hospital-based ANC users was 4.5, which was statistically higher than the 3.6 of community-based ANC users and the 2.9 of those who didn't use ANC at all.

After controlling for the covariates, there was statistically significant association between places of antenatal care and having protection-at-birth; hospital-based ANC and community-based ANC users had approximately two times more likelihood of having

protection-at-birth than non-ANC users.

After controlling for the covariates, children who were born to women who had received hospital-based ANC and community-based ANC were 1.9 times and 2.2, respectively, more likely to have childhood full immunization than those who were born to women who hadn't received ANC.

Discussion

Situation of MCH services in rural Lao PDR

Community-based ANC has been underutilized by people in the project area: only one-fifth of women who received ANC were community-based ANC users. Low utilization of community-based ANC might be partly attributable to time constraints on outreach health workers to travel from a district hospital to villages, and to provide comprehensive MCH services in a limited time (workload).

Lack of awareness and familiarity on mother and child health services among this population would be another possible explanation of underutilization of community-based ANC. The SMECD project focused on poor and uneducated people in remote areas of Lao PDR.

As noted in a study from Vietnam and a study in Xayboury province of Lao PDR to that regular supervision, monitoring and training of local health worker contributed to the improvement in quality of MCH services, resulting in better maternal and child health. This may also provide a partial explanation of the underutilization of community-based ANC: lack of any framework for project monitoring and evaluation mechanisms can lower local staff's motivation to improve services.

Although some supervision from the central and provincial level is provided to the district level, it is insufficient to motivate the local staff.

This study also showed that the coverage of protection-at-birth against tetanus and childhood full immunization was 46.8% and 27.3%, respectively, both lower than in previous studies in Lao PDR. Ethnicity is a possible explanation of this lower coverage. It was noted that the majority of women who participated in this study were midland (Khmou) and highland (Hmong) Lao and animists, and the majority had never enrolled in school. Modern medicine is seemingly less popular and underutilized, and traditional culture and healers more popular, among this group.

Role of antenatal care

Promotion of institutional deliveries

The research findings in this study are also consistent with previous studies, where half of hospital-based ANC users opted for institutional deliveries; however, it was also noted that only 6.8% of mothers who had received community-based ANC had chosen institutional delivery.

In this study also, the difference in institutional delivery promotion between community-based ANC and hospital-based ANC might be partly attributable to the quality of services and counseling given to clients during their visits. In this study, it was noted that clients utilizing hospital-based ANC were more knowledgeable regarding pregnancy and delivery complications than community-based ANC users and non-ANC users.

Although there are guidelines for outreach ANC activities, the specific components of the

community-based ANC services package are unclear. As reported by provincial and district health officers, some components of hospital-based ANC were simply reproduced and used in the community-based ANC package, without giving consideration to the differences such as awareness of risks in pregnancy and delivery, perception of MCH services, and sociodemographic and characteristic between hospital-based ANC and community-based ANC users.

Promotion of immunization

The results in this study highlight that besides hospital-based ANC, community-based ANC was also significantly associated with increase in women and children immunization status. Based on the above findings, it can be conjectured that community-based ANC may facilitate the promotion of protection-at-birth against tetanus among women and immunization of their children. Possible explanations would be that high opportunity to receive immunization and familiarity with immunization activities among community-based ANC users, encouraging them to get themselves vaccinated and their children as well.

Conclusions

This is the first study to assess benefit of community-based antenatal care service to reduce maternal and child mortality rates by encouraging institutional deliveries and immunization of women and children. Community-based antenatal care has been underutilized by women in rural areas. However, the overall ANC coverage was slightly improved in the study areas in 2009 compared to the national coverage in rural areas of Lao PDR in 2005.

Strengthening the community-based ANC services would help to promote immunization among women and children in rural areas of Lao PDR. However, duplicating and reproducing some components of hospital-based ANC in community-based ANC services as a tool to promote institutional delivery remains questionable.